

## MEOTHOD AND DEVICE FOR DISPLAYING IMAGE USING SPATIAL OPTICAL MODULATION ELEMENT

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### Abstract

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**PURPOSE:** To provide a method and a device for displaying an image displaying the bright and high quality image with a wide dynamic range and with an excellent gradation display characteristic even in the case of a dark image by using a spatial optical modulation element.

**CONSTITUTION:** A peak level  $V_p$  is detected at every fixed period of a video signal  $V_{in}$  supplied from the outside. A gain  $G_s = V_p/V_o$  is calculated from the detected peak level  $V_p$ . However, a reference peak level  $V_o$  is defined as the standard peak level of the supplied video signal. After the gain  $G_s$  is calculated, the video signal level is modulated as  $V_c = V_{in}/G_s$ . The modulated video signal  $V_c$  is converted to a drive signal, and the spatial optical modulation element is driven by it. Simultaneously, a light output level  $L_{out}$  in a light emission part is made  $L_{out} = G_s \times L_o$  by using the gain  $G_s$ . Where,  $L_o$  is a reference light output level in the light emission part. By repeating mentioned processing at every fixed period, the bright image with an excellent gradation characteristic and a black display characteristic than usual is displayed.

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TI - Image display device using spatial optical modulator elements - detects peak value of video signal for fixed period and controls drive to optical modulator accordingly

AB - J06102484 The device has a luminescence part which can change an optical output level. An optical modulator modulates the output light of the luminescence part. A video signal processing part processes the video signal and actuates a drive part which drives the optical modulator part.

- For every fixed period of video signal, the peak level  $V_p$  is detected. From this, the gain is computed as  $V_p/V_o$  where  $V_o$  is the standard peak level of the video signal supplied. From this, a video signal level is modulated and used to drive the optical modulator part.

- ADVANTAGE - Reduces display irregularity while displaying a dark image. Thus, a bright image display device of high image quality can be obtained.

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PA - (MATU) MATSUSHITA DENKI SANGYO KK

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TI - METHOD AND DEVICE FOR DISPLAYING IMAGE USING SPATIAL OPTICAL MODULATION ELEMENT

AB - PURPOSE: To provide a method and a device for displaying an image displaying the bright and high quality image with a wide dynamic range and with an excellent gradation display characteristic even in the case of a dark image by using a spatial optical modulation element.

- CONSTITUTION: A peak level  $V_p$  is detected at every fixed period of a video signal  $V_{in}$  supplied from the outside. A gain  $G_s = V_p/V_o$  is calculated from the detected peak level  $V_p$ . However, a reference peak level  $V_o$  is defined as the standard peak level of the supplied video signal. After the gain  $G_s$  is calculated, the video signal level is modulated as  $V_c = V_{in}/G_s$ . The modulated video signal  $V_c$  is converted to a drive signal, and the spatial optical modulation element is driven by it. Simultaneously, a light output level  $L_{out}$  in a light emission part is made  $L_{out} = G_s \times L_o$  by using the gain  $G_s$ . Where,  $L_o$  is a reference light output level in the light emission part. By repeating mentioned processing at every fixed period, the bright image with an excellent gradation characteristic and a black display characteristic than usual is displayed.

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